COLOR THEORY AND ITS APPLICATIONS IN MARKETING AS IT RELATES TO COLOR PSYCHOLOGY

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Introduction

The first television advertisement in America was aired on July 1, 1941 (Bulova 1941). A lot has changed in television advertising in the past seventy-five years. Higher quality equipment, subtle selling strategies, and the introduction of color all add to the overall production value of today's advertisements. Studies have found that today, people do not want to feel like they are being advertised to, or being persuaded to buy a product (Stinson 2014). Marketers use subconscious cues to tap into customers' thoughts about a brand or product (lbid). Color implementation is one subconscious cue that marketers utilize in today's advertisements. There has been a multitude of research (Call & Jantzen 2012) (Labrecque & Milne 2012) (Gimba 1998) (Gorn, Chattopadhyay, Yi & Dahl 1997) when it comes to color psychology and its applications in marketing, but research on the application of specific color schemes and its effect on purchase intent is minimal, if not nonexistent.

It is important to note that color theory and color psychology are two different things. Color theory is usually characterized by the formation of the color wheel and the fact that all colors can be made from three primary colors in an additive color system. Most of the initial research based around color theory was published in the 18th century, most notably *Theory of Colours* (1810) by the German poet and government minister Johann Wolfgang von Goethe, and *The Law of Simultaneous Color Contrast* (1839) by the French industrial chemist Michel Eugène Chevreul. Color psychology is the study of hues as a determinant of human behavior. Most studies that centralize around color psychology focus on how a color is perceived by an individual or how it makes them feel. One of the earliest published articles about color psychology outlined the different colors that different cultures use to signify mourning ("Different Colors of Mourning," 1825). After the body of research around color theory and color psychology grew, marketers started implementing it into their advertisements to take advantage of color psychology and get the viewer to feel a certain way about the brand they were marketing. Both color theory and color psychology can be used independently, but when used together, the advertiser leverages research around

two separate theories to work co-dependently. Using color theory ensures your advertisements have a universal color scheme to them, or a universal look. Using color psychology takes advantage of the human perception of certain colors to make the viewer feel a certain way about your advertisement.

In 2014 alone, the top 200 advertisers in the United States collectively spent $137.8 billion on advertising, with the top 5 spending at least $2.5 billion each (O'Reilly 2015). These advertisers are not spending carelessly, though. Most actually cut their spending from 2013 and are making the move to digital over print and other older mediums (lbid). With all the money being spent in advertising and with the move to digital, it is now more important than ever to think smarter with every dollar spent. One way advertisers can think smarter is by reevaluating their use of color theory. Most research seems to focus on the main color being used and how it relates to color psychology (Labrecque & Milne 2012) (Gorn, Chattopadhyay, Yi, & Dahl 1997), but they lack emphasizing the colors being implemented in conjunction with the main color, or in other words, what colors they use to form a color scheme.

With so many dollars being pumped into advertisements, outspending the competition is no longer what makes an advertisement sell more products. Every bit of differentiation from the competition is important, which is why ads are usually tried and tested before they are ever published. Focus groups, A/B testing, and more are all examples of how a marketer makes sure an advertisement is effective. While it is easy to change the color scheme in a print advertisement and reprint it, shooting a commercial with three different color schemes to see which has the most influence on purchase intent is not exactly efficient when it comes to spending ad dollars. Of course, an advertiser could test this theory with computer-generated imagery, or CGI, but then that would limit the medium of the advertisement, in addition to raising production costs (Martens 2014). Marketers have to be sure of their decision when it comes to the practical use of color in a video commercial. This creative project can serve as the foundation for a quantitative study. The results of this quantitative study can be another piece of assurance

for marketers, in addition to current practices like A/B testing and focus groups, that they are making the right decision when it comes to selecting a color scheme for a commercial.

The main goal of this project is to develop a set of media pieces that future quantitative research can use for research related to purchase intent. For this project, these commercials implement color schemes just like a regular production would. The colors do not blatantly stand out, but they do not blend in so much that the effect goes unnoticed. These media pieces are exactly the same in every way except that the practical on-screen props follow different schemes; specifically an analogous scheme (Appendix F), a triadic scheme (Appendix G), and a complementary scheme (Appendix H). Following the completion of this project, others can build upon it by showing the commercials to research participants and survey them about their purchase intent.

While the main goal of this project deals with color theory, the advertisements also need a narrative to follow. Since this project ideally will be a jumping off point for future quantitative research, I have to work backwards. I assume the general demographic of the participant pool will be college students, so I will center the narrative around that demographic. I also do not know any specifics about the participant pool, so I will make the characters, their scenarios, and their interactions as generic as possible while still being interesting to the viewer and still highlighting the product.

Throughout the production of this project, I intend to control any variables and just focus on the use of color. The lighting will remain the same, as will the actor's actions (as much as possible), the music, the color grade, and everything else that can be controlled. Continuity will play a large role in these ads, so I intend to have the assistant director, and everyone else on set, pay close attention to the clips as we play them back.

Review of Literature

According to Bourne (2015), by learning color theory, you can expand your knowledge of color, implement it into your video productions, and use it to your advantage to draw attention or influence the

viewer in one way or another. The article is written by Wéland Bourne, an award-winning filmmaker as well as a VFX and motion graphic artist. He references color research completed by Albert Munsell, inventor of the Munsell color system, and film implementations of color by Stanley Kubrick, one of the most influential directors in cinematic history. Bourne says that implementing color theory into your video productions can give it a higher production value. Not only should color be something thought about on-set, it should be planned in the pre-production phase as well as the post-production phase.

According to Gates (2013), color is a fundamental of design and visual storytelling. Though this article heavily focuses on the color grading and color correction processes, it also hints at color theory throughout. The author, Chris "Ace" Gates, is an Emmy Award-winning writer and editor. This article discusses both the theoretical side of color, as well as the technical manipulation of color. Gates points out several aspects of color grading such as hue, saturation, luminance, additive colors, red/green/blue (RGB) system, and secondary color grading. The author discusses the process of using color in film and video, from shooting the optimal footage, to correcting and grading to fix less than ideal footage.

Sometimes one has to take a step back and look at everything that color is doing for their brand. In the case of FedEx, their brand colors were not recognizable and not the same to everyone. An article in Adweek discusses FedEx's highly recognizable logo, but that Fedex's several divisions all had their own color scheme (Birkner 2016). Patrick Fitzgerald, SVP of integrated marketing at FedEx said their research showed that purple and orange is one of the most recognized representations of the logo by their consumers. FedEx had 3 or 4 main color schemes, but as of August 26th, 2016, they will now only use their most widely recognized color scheme, purple and orange. In the last sentence, Birkner mentions that FedEx would soon unveil their first NFL spots of the season. It is too early to tell, but one could infer the author is foreshadowing these spots to focus solely on the new color scheme.

Does color scheme really matter, though? Call & Jantzen (2012) set out to answer that question in an article discussing the utilization of color in the design of treatment facilities and whether or not it can

assist mental health professionals in the desired treatment outcomes for their patients. The two authors looked at several studies that took an objective, physical approach as well as those measuring the effects of color on the human body and mind. This article not only talked about the psychology behind certain colors and what emotions they can evoke, but also colors that would complement them in a scheme. Through their research, they found that facilities that were designed with color theory and color scheme in mind helped mental health patients connect the eyes and mind. They also explored not using just one color scheme for the entire facility, but noted that different color schemes benefitted mental health patients with different conditions.

Before the rise of technology, and with it the rise of automated color scheme creation applications, designers had to pull out a paper copy of the color wheel and select colors according to their positions on the wheel. In a 2006 guide titled the *Complete Guide to Painting & Decorating,* there are two articles discussing how to form a complementary color scheme and how to form an analogous color scheme. Complementary color schemes do not always project good vibes. In fact, they can be dramatic and arresting. To form a complementary color, the article instructs one to choose their main color, then look directly across the color wheel for their complementary color. By being directly across the color wheel from each other, these colors can play off each others' contrast to bring out the best characteristics of the hue. For interior design, the author suggests bringing in a third color that has a neutral or muted hue to soften the contrast of the first two colors. The author suggests that one must strike a balance in a color scheme, else certain colors can be too dominant for the vibe one is attempting to portray.

A related color scheme, commonly referred to as an analogous color scheme, is a bit different than a complementary scheme. Instead of being directly across the color wheel from each other, in an analogous color scheme, the colors are exactly the same spacing apart from each other around the color wheel. The trick with a related color scheme, in terms of interior design, is making the room not seem one-dimensional. If one chooses colors that are too close to each other on the color wheel, there is not

enough of a soft contrast. To combat this, the author suggests picking two dominant colors on the color wheel, and then choosing accent colors that are equidistant from the chosen dominant colors, either in between them or to the left and right of them. To give the scheme some balance, the author also suggests adding neutral hues to some of the dominant features in the room (*Complete Guide to Painting & Decorating* 2006).

One article that is considered a landmark study in color theory and color psychology is titled, "Exciting red and competent blue: The importance of color in marketing." Labrecque and Milne (2012) test the use of color in marketing with four separate studies. The first deals with color psychology and brand personality, the second examines saturation and color value, the third with color and its role in purchase intent, and the fourth with familiarity and likability in relation to color. The authors conducted these studies by asking subjects about print advertisements that tested each of these principles. The method that was used the most was A/B testing and side by side comparisons. The results of the four studies provide strong support for the relationship between color and brand personality, driven by color's referential meaning.

Though Labrecque and Milne made huge advances in the color theory and color psychology fields with their paper, the results may only be effective for advertisers in the United States. When it comes to color, there is a large disconnect when one advertises to another country or culture. This is usually why larger brands will have advertising teams for each specific international market that they are advertising to. In an article titled, "Are You Selling the Right Colour? A Cross-cultural Review of Colour as a Marketing Cue," Aslam (2006) explored three main topics: color, marketing, and culture-specificity when it comes to the previous two. Color is interpreted differently in different cultures, but most advertisements are made for the United States (Countries with highest ad spend, 2016). This study begs the question: should marketers adopt a pan-cultural marketing design, or should they design their marketing strategies to be culture-specific. The study found that certain colors were associated the same

in all cultures, but several were not, leaving a huge gap. The author hypothesizes that for cultures not in the Western world, there is probability for a product that is marketed using local color associations to have greater success than a product that is marketed that does not use color association specific to that culture.

Generally speaking, if a brand is not using their brand colors in an advertisement, then they are free to pick a color based on color psychology. While some advertisers may cater to fad colors, certain industries may choose to stay away from these fad colors and pursue a more timeless color. According to Gimba (1998), automobile manufacturers usually don't introduce fad colors that have been unpopular over time because it will be hard to sell that car when it is five years old and the color is no longer part of a fad. He also mentions Color Marketing Group based out of Virginia. CMG has a sizeable membership and following due to their color forecasting. Upon further research of their website, they predict future color trends based on current trends that their members observe in their respective fields.

When a small or niche organization tries to be the subject matter expert, there is always the question of legitimacy. Melanie Wood, a past-president at Color Marketing Group, looks to legitimize the organization as a subject matter expert in an article with *Hospitality Design*. She discusses her presidency briefly, but most of the interview focused on the legitimacy of the Color Marketing Group. CMG has 1,500 members worldwide. The selection process is very strict for CMG. Potential members must have some form of education relating to color, as well as experience in the working field directing color decisions. In the interview, Wood mentions ColorLink, a program to connect CMG's members with other color organizations in other countries. This is key to market to several different countries using different variations of color. It seems this group is made up of people whose main job is color decisions in their industry, and that is their sole specialty (Melanie Wood... 1999).

There are several studies that delve into the actual makeup of a color, or its hue, saturation, and intensity. A study titled, "Effects of Color As an Executional Cue in Advertising: They're in the Shade,"

contained eight hypotheses. All of them focused on the different characteristics of color in an advertisement, and whether or not they had an effect on feelings of the subject. They measured feelings in a two-dimensional framework that measured excitement versus boredom and relaxation versus tension. This study tested several different aspects of the use of color as an executional cue. It tested separate parts of a color such as hue, chroma and value. As for the results, higher levels of chroma and value brought forth feelings of excitement and relaxation, respectively. The study suggests that by taking advantage solely of the hue and not paying much attention to the chroma and value is forcing brands to miss sales opportunities (Gorn, Chattopadhyay, Yi & Dahl 1997).

From the existing body of research, it looks like research of color psychology in marketing and advertising did not start to really ramp up until the late '90s and early 2000's. In the late 70's when commercials began airing on television, there was little thought put into the color process. An article by Sheth (1974) focuses on the theoretical side of advertisements, such as how much advertising persuades the consumer's choice process. By now the world has figured out that advertising is a huge part of the marketing process for a brand or product, but back in the seventies, it was new territory for researchers. In the author's theorized conclusion, he believed advertising exerted the least influence as a persuasive mechanism on the choice process of a consumer. He states that the consumer must be ignorant or technically incompetent for believing an advertisement.

Color theory itself has a vast amount of research around it, so it helps to narrow down what one would be using color theory in correlation with. For its applications in design, Agoston's book titled *Color theory and its application in art and design* is a great place to start. This book solely focused on color theory. It heavily relied on science and what color is versus how consumers perceive it. In the first section of the book, it discusses the history of color and where color stands today. The second section focuses on what color is itself. After explaining color, the author introduces characteristics of color such as hue, saturation, colorfulness, brightness, lightness, grayness, and fluorescence. After characteristics, the

book dives into how humans perceive color and how light plays a strong role in the observance of color. This is a comprehensive guide to color theory. It touches on color psychology, but the author focuses more so on the science of color versus our interaction with it (Agoston 1987).

While there is a vast research surrounding color theory, researchers are still getting mixed results with color-based research. For example, Kwallek, Woodson, Lewis & Sales (1997) tested the impact of different colored offices. The authors went to great lengths to ensure everything in the office would not influence the outcomes. They covered windows with drywall so natural daylight would not fluctuate throughout the day. They measured the color temperature for the light bulbs they were using, and even took note of the color rendering index of the bulbs so that they would remain consistent. For their results, they found that in all three of the office spaces, none of them dramatically improved worker productivity. They screened workers prior to working as to whether or not they were low or high on the productivity scale, and then again for each day. One thing they did note is that it impacted the mood of the worker a great deal.

Clarke & Honeycutt (2000) studied the use of color in international business-to-business advertisements and whether or not it can impact the success of an advertised product. It focuses on business advertisements in different parts of the world such as France, the United States, and Venezuela. The findings conclude that Venezuelan ads use significantly more red, orange, and green colors. Advertisements in France and the U.S. use higher amounts of black and brown colors than other countries. The U.S. also utilizes significantly more black-and-white ads than other countries examined in this article.The results from the research suggest pan-cultural color marketing can be successful, contrary to prior theories about international color marketing.

Park & Lee (2013) wrote an interesting article focused on recall of color schemes in advertising. They surveyed mostly women in the 20-30 year old demographic. This study aimed to understand the advertising recall effect in relation to its color scheme. A total of 5 different color schemes were chosen

and used in the form of fashion magazine advertisements.To measure the recall of these advertisements, they divided the advertisement into four main characteristics: brand, picture, color, and style. In the results of the study on advertising recall, there were significant differences in picture and color recall. The picture recall was highest with a complementary color scheme, while color scheme recall was highest when using a single or related color scheme.

Parker (1937) observed the differences in advertising standards between the United States and Europe during the 1930s. Parker does not touch on color much, if at all, but he does note that in terms of typography to illustration, the two must be complementary or analogous to be achieve the highest level of effectiveness. The author ends the article by noting that in 1937 the trade of advertising was so near to perfection that it was not easy to propose any improvement. Nearly eighty years have passed since the publication of this article, and one can infer that advertisements have evolved dramatically, at least in medium.

Tsitsilina (2014) completed a study about color psychology, its use in advertisements, and how it might affect consumers' intent or desire to buy. The author notes that in the articles he has researched, particular attention is paid to the conscious and unconscious influences that an advertisement has. Without asking the consumer directly, it is difficult to gauge the effect colors have on someone. The author notates colors and what feeling associations they have, but not in a pan-cultural way. The research he cites is based upon European and Canadian findings. In terms of color, this article balances explaining the feelings an advertiser should expect from a consumer and explaining what parts of the advertisement may influence the consumer's desire for the product.

With this review of the available literature, I believe this project will benefit the limited research by building a foundation for quantitative studies that explore color scheme selection and purchase intent. There is clearly a lot of research out there about color psychology and its role in marketing, but diving deeper into comparing the effectiveness of a type of color scheme in the advertisement has been explored

minimally, if at all. This project will serve as a jumping off point for other researchers to build upon this topic.

Methodology

I chose the video medium because video is becoming a large part of our every day media consumption. On Facebook alone, the appearance of video content in the news feed has increased 360% from 2014 to 2015 (Peterson 2015) and 100 million hours of Facebook videos are watched every day (Wagner 2016).

I wanted to approach this project the way I would approach any other: create a professional-grade piece under the budget constraints we had. I was restricted to certain types of funding which excluded crowdfunding sources, and most of the grants I planned on applying for had deadlines that were beyond the completion date for this project. I worked with what I had and established a $500 budget to be mainly used for props and feeding the crew that would be donating their time and expertise.

In order not to create any bias in these ads, I wanted to make up a brand name instead of choosing an existing entity. Since these commercials were for a generic brand, I was free to create whatever color scheme I wished that would suit the project best. I knew at this point I wanted to center the ads around a bluetooth speaker, so I set off to find a Bluetooth speaker that did not have a logo or brand name on it. After I found the speaker I wanted to use, I knew I had to settle on a main color that the speaker would be, since it would be a consistent prop and the main product. After I bought the speaker, I took a picture of it in the same lighting conditions I would be shooting in: soft natural daylight around 5500K. I took a picture with my camera calibrated to that color temperature, then used Adobe's mobile Kuler app to import the picture and color picker the speaker. From there, I went to Adobe's desktop site and selected the three common types of color schemes: analogous, triadic, and complementary.

I completed a large amount of planning in the pre-production phase of these commercials so as to make the best commercials I could and make the production days go smoothly. Several of these

pre-production documents are in the appendix of this paper including the storyboards (Appendix A), Audio/Video sheet (Appendix B), shot schedule (Appendix C, D & E), color schemes (Appendix F, G & H), and crew list (Appendix I). There were several copies of these documents on set so that myself and my assistant director could ensure as much continuity between the commercials as possible.

The list of prominent equipment I used for this project is also in the appendix (Appendix J). I ended up staying away from HMI lights and chose to stick with mostly LEDs. This allowed us to quickly move to the next shot's lighting setup and allowed for quick lighting adjustments since the lights were dimmable. Most of the shots involved movement to keep the pace of the commercials upbeat. Even in shots where the camera was not moving, there was usually some sort of upbeat action happening in frame. The commercials were shot on a Canon C300 mk II with Schneider Xenon lenses in C-Log 2 in 4K resolution which we downscaled to 1080p for delivery. In post-production, we utilized Adobe Premiere Pro to edit and Davinci Resolve to color correct and color grade. The commercials were exported in two codecs: Apple Pro Res 422 HQ for high-quality offline usage, and H.264 optimized for streaming.

Just like any other project I would work on, I approached this as I would on a professional paid job. I did all of the necessary planning. I surrounded myself with competent and skilled crew members. We shot consistent looking footage in the production phase, and we corrected everything to match in the post-production phase. We created three high quality commercials that showcase three different color schemes based off of one consistent color. Now, future quantitative research can build off of this project, and not have to worry about creating effective media pieces. They can focus on getting the results, which will determine if a color scheme type can have any effect on a user's purchase intent.

In the beginning stages of this project, I had to decide whether I was going to shoot this project with a camera or whether I would create a commercial made up of motion graphics. While I am not as skilled in motion graphics, this would have simplified the entire process since it would only take a minute or two to change the entire commercial's color scheme. I stuck with shooting it practically because if you

watch commercial breaks on TV, the majority are still shot practically versus created entirely with graphics.

Upon coming up with the initial basis for this project, I was asked often if I would create three separate commercials with different content and storylines. After consulting with researchers more qualified in quantitative research, I decided that that could possibly skew the results and would be one less "control" characteristic, so I decided to make each commercial as identical as possible, minus the color changing props. Originally I had planned to shoot this in a studio, but with the incorporation of outdoor scenes and a budget that could not afford set construction, I decided to manage the consistency of our surroundings instead.

Discussion of the Project

Narrative Overview

These commercials follow a young adult female and how she uses a bluetooth speaker from the time she wakes up to the time she winds down at the end of the night. There is no dialogue by the characters in the commercial, but there is a female voice over internal dialogue. There are two supporting roles: one is a male who appears to be her significant other, and one is a female coworker. The theme of the commercial is how music inspires the lead character to find inspiration in the ordinary.

Pre-Production

After successfully defending the prospectus for this paper, I started working on the initial stages of the pre-production process. The first thing I did was determine which color scheme types to use in the commercials. I chose to utilize analogous, triadic, and complementary color schemes. Next I decided which product to center the advertisement around. I did not want to have future results skewed by advertising a product whose target demographic may lean significantly towards a certain gender, so I tried to focus on a product which would be equally liked by both men and women, and I thought the bluetooth

speaker was a fitting product. Before developing the story or the content of the advertisement, I had to determine what my age demographic was going to be. At first I thought to try and make a storyline that gives off a "this speaker is for everyone" kind of message. It would show people of every generation using the speaker. I ultimately did not go with this storyline because it would involve more actors, which meant more casting and more logistics to be sorted out on production days. Instead, I decided to hone in on the college-aged demographic. I decided this based on information I found about the research participant pool in the psychology department at Ball State University (PSYS 100). The department offers an extracurricular required research credit in exchange for participating in academic research studies for Psychology 100 students.

By this point I had already decided that the commercial would be showcasing a bluetooth speaker, but I didn't know what brand to make the commercial for. Ultimately, I decided to make the brand a generic made up name so as to not create bias. As for choosing the color of the speaker, which would ultimately determine the colors that would be in the three schemes, I found an article that states that out of a choice of eight colors, blue is the top choice for both males and females, as well as the 19-24 age group (Hallock n.d.). After this I finalized the storyline to follow a young adult female using the speaker to inspire her throughout the day versus a feature-based ad centered around the speaker. In the interest of keeping the advertisement to thirty seconds, I minimized the amount of shots that follow the significant other and the female coworker. I considered having the commercial be sixty seconds or even a shorter ad like what is appearing on digital platforms like YouTube and Hulu now, but for simplicity's sake, kept to the traditional thirty second duration. What solidified my decision was receiving the script copy from the production's copywriter and doing a timed reading of it. With the pacing I was shooting for, the script turned out to be about twenty-five seconds. Next I broke up the script into an A/V sheet to get an idea of what shots I wanted to accompany the voice over with (Appendix B). This was also a good exercise to help me determine which shots I should have the speaker in, and which ones I shouldn't so the

viewer doesn't feel like they are being blatantly advertised to (Stinson 2014). Once I completed the A/V sheet, I moved on to completing the storyboards. Since I was directing the piece, I did not feel the need to hand draw the storyboards, so I used reference frames from stock footage on various websites.

At this point I knew it was time to start filling crew positions. The first crew position I recruited was a producer. The producer helped with the backbone of the commercials to make everything logistics-wise go as smoothly as possible so that I could focus on the creative process. We both managed to fill in the crew list rather quickly as we already had a lot of soft commitments from peers who had expressed interest in helping with this project (Appendix I).

After finishing the storyboards I met with the props master to discuss which props we needed for each shot and which props would be the rotating color props for each commercial. In Appendix K, one can view the props in each shot that rotated for the three commercials. We tried to locate props that matched the hex number as close as possible, knowing that in the post-production phase we could fix slight inconsistencies with secondary color correction. We also decided to buy certain props and paint them instead of hunting down a specific color.

Following the completion of the storyboards, I formulated a shot list that I used to create the shot schedule for our three day shooting weekend (Appendix C, D & E). This document contains information that keeps the shoot flowing smoothly on the shoot days. It answers common questions that key crew members may have so that they do not have to ask a question about how every shot is going to be executed. The shot schedule also helped the assistant director keep us on time to complete the shots in a timely manner. In the midst of completing the storyboards and the shot schedule, my producer and I finalized our shooting locations as well.

Production

Our production consisted of three shoot days. On day one, we executed shots 5A, 5B, and 5C (Appendix C). Friday was one of our outside days which was concerning. This project was shot in

February 2018 and the weather was still hit and miss in terms of precipitation. I did not think this would affect the story too much as long as it was not pouring down rain and snow After all, the two characters are going for a bicycle ride in this scene. Besides precipitation, my other concern was lighting. For consistent lighting, using artificial light or shooting on an overcast day are your best bets. Being that this was a long driving shot, we could not utilize any lights that needed to be plugged in. The vehicle we were using did not have any safe mounting points to mount lights to the vehicle, nor did we have lights strong enough to project light the distance needed to reach the actors. Luckily, it was an overcast day. While we could not use bounce boards to bounce the sun onto the actors, the Litepanels LED 1x1 lights that we had in our arsenal did a fine job filling in our talents' faces (Appendix L). I kept my eye on the waveform and on the spot meter to try to ensure consistent exposure, though we were shooting in Canon C-Log 2 so I knew we could adjust exposure to a degree in the post-production phase if we needed to.

The actors were riding bicycles that had been rented from the outdoor pursuits recreation department on campus. Our production did not have the budget to buy bicycles, so we decided to rent bicycles. The downside to this was the bicycles were a bright red that did not match any of the color schemes. This was our only viable option, so we opted to compose the framing of the shot so that the bicycles would stay out of the frame. I knew we could manipulate the saturation and hue of the bicycles through secondary color correction in the post-production phase, so I was not worried if the bike frame entered the frame minimally. One thing that became apparent was that the actors were losing enthusiasm as we moved from the analogous scheme shot to the triadic scheme shot and to the complementary scheme shot. Generally speaking, we would roll two to three takes with 4-5 soft cuts for each shot before swapping out props. This means the actors were doing the same action anywhere between eight and fifteen different times. To combat this, the crew kept a positive attitude and would tell jokes the actors could laugh about. While it seems silly, it kept morale up and the shots looked consistent when it came to the actors' performance.

For shots 5B and 5C (Appendix C) we had originally planned to shoot out the side doors of the equipment van we were shooting out of. Upon trying to rig the side doors open, we realized the doors did not open all the way and flatten against the body of the car. Since it was not precipitating, we opted to switch vehicles to a crew member's truck. This allowed for much easier capture of the profile shots. Overall, our first shoot day went smoothly.

On our second shoot day we were a little blind sided from the get-go. We had planned all of our shots around a two bedroom floor plan, but we were given a three bedroom floor plan to shoot in. Luckily, we had access to the location on the night of our first shoot day so we could plan out how to adjust the shots to accommodate this floor plan. This apartment was semi-furnished, but we still brought in several props. We set decorated the apartment on the night before the second shoot so all we had to do on the shoot day was set up all equipment and get rolling. The second day went smoothly as well. The only problem I remember arising was that we had to settle on shooting shot 1B not in slow motion (Appendix D). The original idea with this shot was going to be syncing up the action with a strong musical cue and time ramp the action of the female character whipping the blanket off of the bed. While I had shot in slow motion on this camera before, we could not figure out why we could not get the camera in the correct shooting mode. After the shoot, the camera department did some research and discovered we had one menu setting set incorrectly so it would not provide us with the correct slow motion frame rate to shoot in. The shot turned out well regardless; we just had to time out the action differently on set so it still filled the roll time stated on the A/V sheet (Appendix B). Other than that, no issues occurred on our second shoot day.

On our third shoot day we started out in an empty parking lot. We were simulating a traffic jam in the morning. Instead of having to do this on an actual road, we positioned crew members' cars behind the main car in frame to simulate a traffic jam. The lighting outside was not ideal. It was a cloudy day, but the clouds in the sky were not consistent, so we had to try to control the lighting as much as possible. We put

an 8’x8’ butterfly frame above the car with a solid black cloth on it to block out reflections of clouds in the sky (Appendix M). In addition, we front-lit the actress with a Skypanel S60C at 100% intensity, and side-lit her with two Litepanels 1x1 LED lights. This allowed us to keep control over the lighting as much as possible without being in a studio and with the budget we had. The only shot that I questioned whether or not would make the final cut was the ECU of the rear view mirror. We did not have lights strong enough to light the actors properly because we did not have the budget to rent lights with a higher output.

The second half of the day we were shooting indoors. We decided to combine shots 4A and 4B (Appendix E) into one shot to make it more dynamic. While our location was very modern in style, the design of the room emphasized bright red accents. We composed the framing of the shot to avoid showing red walls and we swapped all of the red rolling chairs for black chairs. We also removed office decorations that were not considered neutral. Some extra actors that filled the background of this shot also had to swap clothing with other crew members to achieve a neutral background. This is something we did not catch in pre-production. At the beginning of the shot, there is a TV. We did not have access to plug in anything to the TV, but we could change the channel. We opted for a show that had a neutral color scheme and had no outstanding colors. While executing the shot for the triadic scheme, we noticed that the TV had switched programs and now featured a show with a lime green car. By having the camera wirelessly transmitting what was being recorded to a TV out of frame, more crew members had their eyes on the shot and assisted the assistant director with continuity. We switched the TV show to a black and white program and continued shooting.

Post-Production

On this production, I opted out of recording audio during a majority of the takes. Since there was no dialogue and music would be playing during the commercial, we only recorded sound effects that our post-production sound engineer could use to build the sound design for this commercial. The post-production sound design played an important role in bringing the shots to life.

Shot 3B (Appendix C) did not make the final cut because the lighting was not strong enough. This was a problem we foresaw in pre-production but could not do anything about due to our budget, so we hoped for the best. Luckily there is enough content in surrounding shots to fill in the gap that this shot left. As stated above, we also combined shots 4A and 4B (Appendix C).

Once we started shopping for props, we realized we were not going to be able to match the color schemes to the props with 100% accuracy. What we did know is that we could tweak the hue and saturation of certain colors on screen slightly to achieve an accurate color. We achieved this utilizing the secondary color correction process (Hullfish 2015). Upon finishing the color process, we exported directly from Davinci Resolve in an Apple Pro Res 422 HQ codec and an H.264 codec.

The research currently available regarding color theory and its applications in marketing as it relates to color psychology specific to color schemes is minimal if not nonexistent. This paper starts a foray into this area that future research can build upon. The three commercials with their respective color schemes were executed according to plan and achieved the results that were needed to make them available for future research. If future researchers want to explore color scheme and if it has effects on purchase intent, they will not have to commission these pieces to be created. The pieces will be readily available and they can start their quantitative analysis right away.

Conclusions and Recommendations

The main reason for pursuing this project was to answer a question I had asked myself in my undergraduate studies: does selecting a certain color scheme rule actually matter, and if so, what scheme should one use when it comes to advertising commercials? This project has provided me with knowledge that I find myself sharing with others who are also interested in applying color theory to their video work, but are unsure of where to begin. It made me realize that people, including myself, use the term color theory and color psychology interchangeably when in fact they are two different concepts that are just related. I took this opportunity to take the technical skills I learned in my undergraduate degree and apply

them to theory-based project. Towards the end of my undergraduate degree I started to find myself leaning towards commercial production instead of film, news, documentaries, or radio like a lot of my peers. I am grateful I could pursue this interest area on my own through the Digital Storytelling program at Ball State University.

I think the way this project was hindered most was by not having more funding. Had more funding been available, the apartment scenes could have had more set decoration, we could have bought neutral-colored bikes so we could have composed the shot with a wider framing, This would have had a more encompassing effect to make everything a bit more centralized around the scheme. Other than that, this is one of the smoothest productions I have ever been a part of. Every day we either wrapped early or on time. 90% of the shots had the original framing and lighting I had in mind when making the storyboards. We would have also been able to rent stronger lights for shot 3B (Appendix C) which had to be cut from the commercial because the shot was underexposed. We simply did not have strong enough lights available to us to expose the characters in the mirror properly.

If I did not have to have complete control over how the commercials turned out to fit the structure of this paper, I probably would have recruited someone to fill the director role, or promoted my assistant director to the director position. My assistant director did take a lot of the responsibilities that a director would normally have since I also was the director of photography on this project. It helped balance the control I needed to have for the structure of the project, but I knew I had someone I could trust take over certain directorial responsibilities. It is not that I did not enjoy directing and working with the actors and being in the director position, I could just tell I belonged in the camera department, and I can tell when it is best to play off of someone else's strengths where I have weaknesses.

The purpose of this creative project was to build a solid foundation for a quantitative study. This project is ready to be utilized to answer the question of whether or not color scheme type in commercials affect the viewer's purchase intent.

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Appendix A

Storyboards

CU Overhead of Female waking up,

eyes shoot open, energized

WS of Female whipping off the sheets

(slowmo/speed ramp)

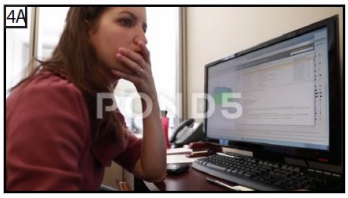
CU on Toaster ejecting toast

M tossing toast to F

Front of F sitting in traffic

Rear view mirror adjustment - of traffic

behind Female



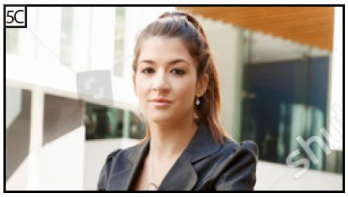
F looks at computer,

she "realizes" she has found something

F shares this with Female supervisor at their desk

Front of M and F coasting down a hill on bicycles

Profile of M looking at F



Profile of F looking at M

Jib down from couple dancing to Speaker

Appendix B

A/V Sheet

AUDIO	VIDEO	ROLL TIME
VO: "Music inspires me…"	Start dark, (sun)light fills the room as...	:02
VO: "To get a jump start."	CU Overhead of Female waking up, eyes shoot open, energized, to speaker as alarm	:01
	WS of Female whipping off the sheets (slowmo)	:02
VO: "To appreciate the most important meal of the day"	CU on Toaster ejecting toast **after** VO	:02
	WS of Male tossing toast to Female	:04
VO: "To remember patience… is a virtue.""	MS front of Female sitting in traffic	:02
VO: "To be *the best*	MCU Female looks at computer, she "realizes" she has found something	:02
VO: at what I do."	MS Female shares this with another coworker/supervisor at their desk	:02
VO: "To enjoy the ride."	WS front of Male and Female riding bikes on a paved walkway by the river	:02
	MCU Profile of Male	:01
	MCU Profile of Female	:01
VO: "Music inspires me…"	MS of Male and Female slow dancing in living room, swaying and shuffling. Jib down to...	:04
VO: "...to take a beat."	CU of Speaker and takeout boxes in foreground with couple dancing out of focus in background GFX: Brand Logo + slogan "Take a beat."	:04
	TOTAL:	:29

Appendix C

Shot Breakdown - Day 1

DAY 1									
SETUP TIME:		1:00:00	1:30p - 5:30p						
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
5A	5A	0:15:00	WS	35	Park	D	front of M and F on bicycles	MoVI	M F
5T	5A	0:15:00	WS	35	Park	D	front of M and F on bicycles	MoVI	M F
5C	5A	0:15:00	WS	35	Park	D	front of M and F on bicycles	MoVI	M F
5A	5B	0:10:00	CU	50	Park	D	Profile of M	MoVI	M F
5T	5B	0:10:00	CU	50	Park	D	Profile of M	MoVI	M F
5C	5B	0:10:00	CU	50	Park	D	Profile of M	MoVI	M F
5A	5C	0:10:00	CU	50	Park	D	Profile of F	MoVI	M F
5T	5C	0:10:00	CU	50	Park	D	Profile of F	MoVI	M F
5C	5C	0:10:00	CU	50	Park	D	Profile of F	MoVI	M F
STRIKE TIME:		1:00:00							
DAY 1 TOTAL TIME:		3:45:00							

Appendix D

Shot Breakdown - Day 2

DAY 2									
SETUP TIME:		1:30:00	8:30a - 5:30p						
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
1A	1A	0:10:00	CU	50	Bedroom	N to D	Overhead on F waking up, night to morning	Jib	F
1T	1A	0:10:00	CU	50	Bedroom	N to D	Overhead on F waking up, night to morning	Jib	F
1C	1A	0:10:00	CU	50	Bedroom	N to D	Overhead on F waking up, night to morning	Jib	F
SETUP TIME:		0:45:00							
1A	1B	0:10:00	WS	35	Bedroom	D	F whipping off the sheets, 60fps	Sticks	F
1T	1B	0:10:00	WS	35	Bedroom	D	F whipping off the sheets, 60fps	Sticks	F
1C	1B	0:10:00	WS	35	Bedroom	D	F whipping off the sheets, 60fps	Sticks	F
LUNCH TIME:		0:45:00							
SETUP TIME:		1:00:00							
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
2A	2A	0:10:00	CU	50	Kitchen	D	Toaster ejecting toast	Apple Boxes	
2T	2A	0:10:00	CU	50	Kitchen	D	Toaster ejecting toast	Apple Boxes	
2C	2A	0:10:00	CU	50	Kitchen	D	Toaster ejecting toast	Apple Boxes	
SETUP TIME:		0:15:00							
2A	2B	0:15:00	WS	35	Kitchen/Hall	D	Profile on F: M tossing toast to F	Dana	M F
2T	2B	0:15:00	WS	35	Kitchen/Hall	D	Profile on F: M tossing toast to F	Dana	M F
2C	2B	0:15:00	WS	35	Kitchen/Hall	D	Profile on F: M tossing toast to F	Dana	M F
SETUP TIME:		1:00:00							
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
6A	6A	0:15:00	MS/CU	50	Living/Dining Rm	N	Jib down from couple dancing to Speaker	Jib	M F
6T	6A	0:15:00	MS/CU	50	Living/Dining Rm	N	Jib down from couple dancing to Speaker	Jib	M F
6C	6A	0:15:00	MS/CU	50	Living/Dining Rm	N	Jib down from couple dancing to Speaker	Jib	M F
STRIKE TIME:		1:00:00							
DAY 2 TOTAL TIME:		9:15:00							

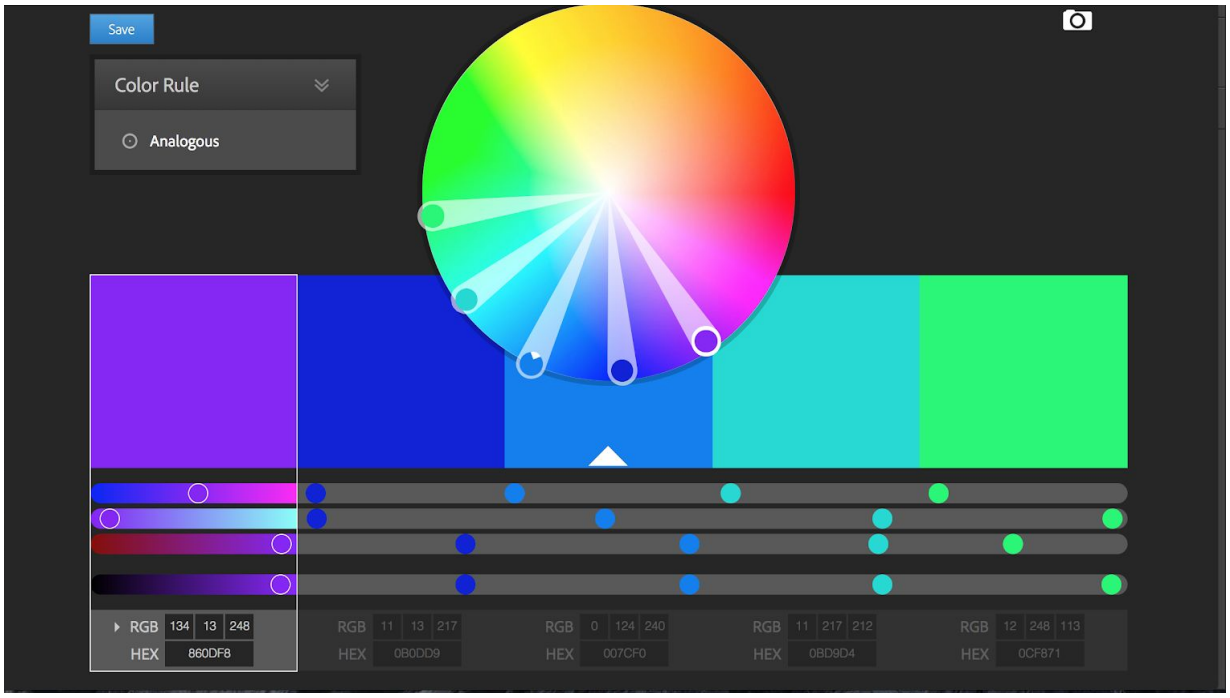
Appendix E

Shot Breakdown - Day 3

DAY 3									
SETUP TIME:		1:30:00	8:30a - 4:30p						
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
3A	3A	0:10:00	MS	50	Highway	D	front of F sitting in traffic	Sticks	F
3T	3A	0:10:00	MS	50	Highway	D	front of F sitting in traffic	Sticks	F
3C	3A	0:10:00	MS	50	Highway	D	front of F sitting in traffic	Sticks	F
SETUP TIME:		0:20:00							
3A	3B	0:10:00	ECU	135	Highway	D	Rear view mirror adjustment - of traffic behind Female	Handheld	F
3T	3B	0:10:00	ECU	135	Highway	D	Rear view mirror adjustment - of traffic behind Female	Handheld	F
3C	3B	0:10:00	ECU	135	Highway	D	Rear view mirror adjustment - of traffic behind Female	Handheld	F
COMPANY MOVE TIME:		1:00:00							
LUNCH TIME:		0:45:00							
SETUP TIME:		1:00:00							
SCENE	SHOT	ROLL TIME	ANGLE	LENS	LOCATION	D/N	DESCRIPTION	EQUIPMENT	ACTORS
4A	4A	0:10:00	MCU	35	Work	D	F looks at computer, she “realizes” she has found something	Dana Dolly	F
4T	4A	0:10:00	MCU	35	Work	D	F looks at computer, she “realizes” she has found something	Dana Dolly	F
4C	4A	0:10:00	MCU	35	Work	D	F looks at computer, she “realizes” she has found something	Dana Dolly	F
SETUP TIME:		0:30:00							
4A	4B	0:10:00	MS	35	Work	D	F shares this with Female supervisor at their desk	Dana Dolly	F Extra
4T	4B	0:10:00	MS	35	Work	D	F shares this with Female supervisor at their desk	Dana Dolly	F Extra
4C	4B	0:10:00	MS	35	Work	D	F shares this with Female supervisor at their desk	Dana Dolly	F Extra
STRIKE TIME:		1:00:00							
DAY 3 TOTAL TIME:		8:05:00							

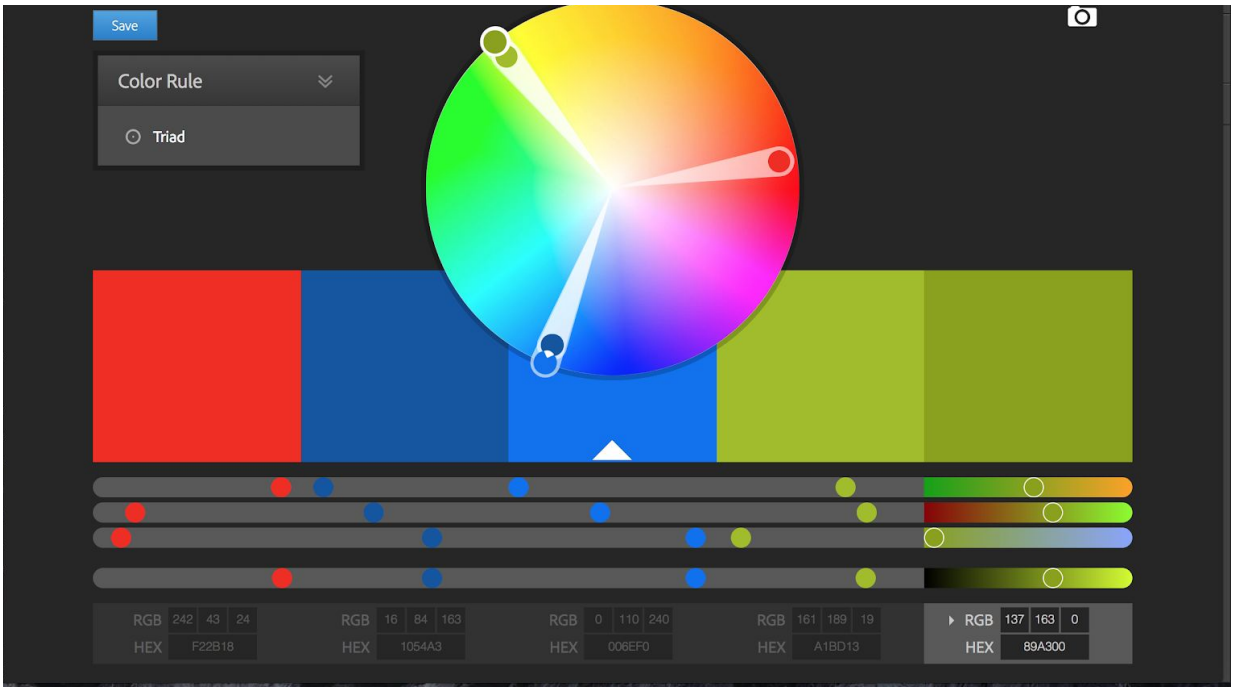
Appendix F

Analogous Color Scheme



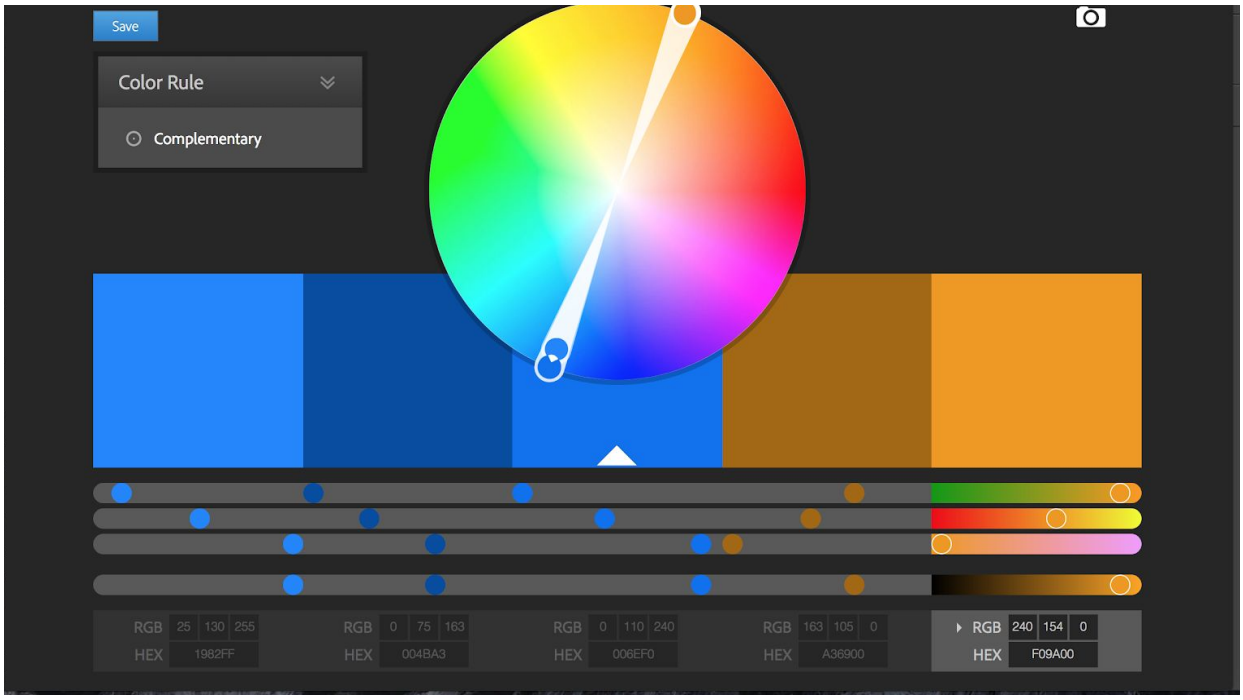
Appendix G

Triadic Color Scheme



Appendix H

Complementary Color Scheme



Appendix I

Crew List

Position	Name
	PRODUCTION DEPARTMENT
Director	**Michael J. Harris**
Producer	**Erin Stanis**
Producer	**Brooke Braun**
Associate Producer	**Ashley Mullen**
Unit Production Manager	**Michael J. Harris**
1st Assistant Director	**Chris Guion**
Casting Director	**Jordan Flora**
	CAMERA DEPARTMENT
Director of Photography	**Michael J. Harris**
1st Assistant Camera	**Jeff Spott**
2nd Assistant Camera	**Ryan Shank**
	ELECTRICAL/GRIP DEPARTMENT
Key Grip	**Adrian Blackwell**
Gaffer	**Ryan Faust**
Best Boy (Electric)	**Max Harp**
Grip (swing G&E)	**Austin Webster**
PA	**Caitlin Demlein**
PA	**Mary Eber**
	ART DEPARTMENT
Props Master/Costumes	**Tori Harris**
	PRODUCTION SOUND DEPARTMENT
Location Sound Mixer	**Ivie Hiller**
Boom Operator	**Jacob Guenin**
	POST-PRODUCTION DEPARTMENT
Editor	**Michael J. Harris**
Colorist	**Jeff Spott**
	POST SOUND DEPARTMENT
Post-Sound Mixer	**Ivie Hiller**
	ADD'L STAFF
Unit Photographer	**Allison Griffith**
Copywriter	**Tori Harris**
	TALENT
Male	**Ogunde Snelling**
Female	**Elizabeth Gee**
Female Supervisor	**Shannon Grosenbacher**
Voice Over Talent	**Katherine Tabisz**

Appendix J

Camera	Support Gear	Audio	Lighting
Canon C300 mk II	Dana Dolly	Sennheiser 416 boom mic	Lowel Omni Light 500W
Zeiss CP.2 21mm	SHAPE shoulder rig	Sound Devices 702T	Skypanel S60C
Schneider Xenon 35mm	10 C-Stands		Litepanels 1x1 (x2)
Schneider Xenon 50mm	8x8 Butterfly		Fiilex P360 (x3)
Schneider Xenon 75mm	Grip kit (x2)		
DJI Wireless Follow Focus	Freefly MoVI M15		
	Tilta Armorman		
	EZ Jib		

Appendix K

Color-coded Prop List

Shot	Analogous	Triadic	Complementary	Non-Color Props (& common blue)
CU Overhead F waking up	Pillow case	Pillow case	Pillow cases	Sheets PJ Tee
WS side F waking up	Potted plant Speaker Flower (Lamp Shelf Book (String shelf)	Potted plant Speaker Flower (Lamp Shelf) Book (String shelf)	Potted plant Speaker Flower Book (String shelf)	PJ Tee Notebook Tealight Holder String Shelf Comforter Tapestry
CU Toaster ejecting	Toaster	Toaster	Toaster	Toast
WS Toast pass-off	F shirt Toaster M shirt Dish towel Clock	F shirt Toaster M shirt Dish towel Clock	F shirt Toaster M shirt Dish towel Clock	Dish Towel Air Plant Hanger Mug + Coffee Easel Toast Backpack
MS front Traffic jam	F shirt Solar flower pot Mirror Tree Speaker	F shirt Solar flower pot Mirror Tree Speaker	F shirt Solar flower pot Mirror Tree Speaker	
ECU rear-view mirror	Mirror Tree	Mirror Tree	Mirror Tree	
MCU solo work shot	F shirt Potted plant Speaker	F shirt Potted plant Speaker	F shirt Potted plant Speaker	Notebook
MS duo working	F shirt	F shirt	F shirt	
WS bicycle ride	F shirt M shirt Gloves Speaker	F shirt M shirt Gloves Speaker	F shirt M shirt Gloves Speaker	M Jacket Basket F Jacket
CU M profile	M shirt	M shirt	M shirt	M Jacket
CU F profile	F shirt	F shirt	F shirt	F Jacket
Jib down to Speaker	Speaker Logo Logo Canvas	Speaker Logo Logo Canvas	Speaker Logo Logo Canvas	Snake Plant Shelf Twine vase Gold Candle Sketch Coffee Table Books (3)

Appendix L

Litepanels 1x1 LED filling in actors' faces

Appendix M

8x8’ Butterfly frame blocking cloud reflections

Glossary

1080p: Standard pixel resolution (1920px x 1080px) for high definition video.

4K (2160p): Future standard pixel resolution (3840px x 2160px) for ultra high definition video.

8'x8' Butterfly Frame: An eight-foot square frame used in conjunction with different fabric materials to alter light sources.

Additive Color System: A method to create color by mixing shades of red, green, and blue.

Adobe Kuler (Color): Adobe's tool for generating color schemes based on a color one picks. Formerly known as Kuler, now known as Color.

Analogous Scheme: Group of three colors that are next to each other on the color wheel, sharing a common color, with one being the dominant color, which tends to be a primary or secondary color, and a tertiary.

Apple Pro Res 422 HQ: ProRes is a line of intermediate codecs, which means they are intended for use during video editing, and not for practical end-user viewing. It retains higher quality than end-user codecs but requires much less disk space.

Audio/Video (A/V) Sheet: Sheet used to breakdown a video into a visual column and an audio column. Dialogue, sound effects, and music go into the audio column and visuals such as video content and graphics go in the video column.

Bounce Boards: A type of reflective material, generally white, but sometimes also silver or gold, that redirects a light source.

Canon C300 mk II: Canon's update to their mid-range C300 cinema camera. This camera features a Super-35 CMOS sensor, 15 stops of dynamic range, 12-bit internal recording, and 4K XFAVC recording.

C-Log 2: Canon's second logarithmic gamma curve. Capturing video in log tells the camera to record more information in the highlight and shadows of the image. This means you'll be able to recover more detail from your highlights and shadows and adjust more colors and tones in post-production.

Color Grade: Process of altering and enhancing the color of a motion picture digitally in post-production. Color grading encompasses both color correction and the manipulation of the image to achieve an artistic look or style.

Color Picker: Used to select and adjust color values, usually in graphics editing programs.

Color Scheme: Set of colors used in conjunction with each other to create a harmonious look.

Color Temperature: The color of a light source measured using the Kelvin scale, generally ranging from 2,000K to 10,000K. Warmer colors such as a standard soft white bulb registers around 2700K while sunlight/daylight registers around 5000K.

Color Wheel: Originally conceptualized by Isaac Newton. An Illustrative organization of colors around a circle. Red, green, and blue are arranged in a triangular fashion and other colors fill the in-between spaces.

Complementary Scheme: Formed by selecting two colors on the color wheel directly across from each other. When placed next to each other or overlapping, they create the strongest contrast for those two particular colors.

Continuity: A method implemented in all stages of production to ensure the production stays uniform.

Demographic: A group of individuals that have similar characteristics.

Director of Photography (DP): Head of the camera department. Responsible for making artistic and technical decisions related to how the image looks.

ECU: Abbreviation for extreme close-up shot.

Exposure: How bright an image appears to be after lighting the set and manipulating camera characteristics like aperture, shutter speed, and ISO.

H.264: Codec developed by the ITU-T Video Coding Experts Group (VCEG) together with the ISO/IEC JTC1 Moving Picture Experts Group (MPEG). One of the most commonly used formats for recording, compression, and distribution.

Hex Number: A hexadecimal code that points to a specific color shade.

HMI Lights: Hydrargyrum medium-arc iodide light made specifically for film and entertainment applications. HMI lights have a high CRI (color rendering index) due to the specific lamp chemistry.

Hue: One of the main properties of a color, defined technically as "the degree to which a stimulus can be described as similar to or different from stimuli that are described as red, green, blue, and yellow."

Litepanels LED 1x1 Lights: A one-foot square flat panel-style light. Equivalent output of a 200W HMI light.

Luminance: A measure of the intensity per unit area of light travelling in a given direction.

Motion Graphics: Animated digital art pieces, usually vector, sometimes rasterized.

Post-Production Phase: Everything that happens after shooting (production phase) concludes. This includes, but is not limited to: video editing, audio editing, visual effects, color grading, and distribution.

Post-Production Sound Engineer: The crew member responsible for the editing, and sometimes creation of, the audio of a motion picture.

Pre-Production Phase: Everything that happens prior to the shooting (production phase) of a motion picture. This includes, but is not limited to: scriptwriting, character development, casting, recruiting crew, location scouting, equipment preparation and training, establishing style, and compiling a shot list.

Production Phase: Everything that happens when shooting the motion picture itself.

Props: Any items used on-screen in the production phase of a motion picture.

Props Master: Crew member responsible for obtaining and inventorying all props used.

Reference Frames: Compiled in the pre-production phase, reference frames help various crew members determine the general feel, style, framing, or look that a director or director of photography are drawing from for inspiration for a shot.

Saturation: Attribute of perceived color relating to chromatic intensity

Secondary Color Grading: Applied after an overall color grade. Used to manipulate specific parts of an image versus the manipulation of the image overall.

Shot List: A list of shots that make up a motion picture, usually broken up by scene. Also helps various crew members by including information like lens focal length, camera movement, roll time, and actors involved.

Shot Schedule: A shot list rearranged to outline the day's production schedule, including building in time for the set up of each shot.

Set Decoration: Decorating the set with props that were not already on the set.

Skypanel S60C: A type of panel-style LED light made by Arri, a manufacturer of motion picture industry lights. Equivalent output of a 2000W HMI soft light.

Soft Cuts: The practice of not stopping recording in between attempts to get the shot captured correctly. Usually utilized in shorter shots for efficiency, but takes up more data space on hard drives.

Sound Design: The creation and arrangement of audio pieces in post-production.

Stock Footage: Footage normally available from online databases for purchase to use in work product.

Storyboards: Drawings created in the pre-production phase to give a tangible idea of what the director and director of photography are looking to capture.

Takes: A series of attempts at capturing a shot in the correct way.

Time Ramp: A technique used to smooth out the transition of a speed/time change in a single shot.

Triadic Scheme: Uses three colors equally spaced around the color wheel in a triangular formation. Vibrant even when using pale or unsaturated hues. Offers a higher degree of contrast while retaining color harmony.

Waveform: A graph that displays the level of a video signal that corresponds to the brightness, or luminance of the image.